

CLAIMS

1. In a machine for inflating and sealing air-filled packing cushions:

a roll of prefabricated film material having two layers which are sealed together to form a longitudinally extending inflation channel near one edge of the material, rows of chambers extending across the material, flow passageways interconnecting the chambers in each of the rows, and inlet passageways extending between the inflation channel and one of the chambers in each of the rows;

a pair of spaced apart, horizontally extending rollers on which the roll of film material rests;

an inflation tube which is connected to a source of air and extends into the inflation channel for introducing air into the chambers to inflate the cushions;

a sealing unit for forming a longitudinally extending seal across the inlet passageways after the cushions are inflated; and

means for feeding the film material from the roll past the inflation tube and the sealing unit.

2. The machine of Claim 1 wherein the sealing unit includes a cylindrical heating element and a wheel which are urged together, with the axis of the heating element being perpendicular to the axis of the wheel and the heating element being exposed for direct contact with the film material.

3. The machine of Claim 2 wherein the heating element comprises a stainless steel rod.

4. A machine for making air-filled packing cushions from a roll of prefabricated film material having two layers which are sealed together to form a longitudinally extending inflation channel near one edge of the material, a plurality of chambers to one side of the channel, and inlet

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- 5 passageways extending laterally between the inflation channel and the chambers, comprising:

 a pair of spaced apart, horizontally extending rollers on which the roll of film material rests;

- an inflation tube which is connected to a source of air and extends into
10 the inflation channel for introducing air into the chambers to inflate the cushions;

 a sealing unit for forming a longitudinally extending seal across the inlet passageways after the cushions are inflated; and

- means for feeding the film material from the roll past the inflation tube
15 and the sealing unit.

5. The machine of Claim 1 wherein the sealing unit includes a cylindrical heating element and a wheel which are urged together, with the axis of the heating element being perpendicular to the axis of the wheel and the heating element being exposed for direct contact with the film material.

6. The machine of Claim 5 wherein the heating element comprises a stainless steel rod.

7. In a method of making air-filled packing cushions from a roll of prefabricated film material having two layers which are sealed together to form a longitudinally extending inflation channel near one edge of the material, a plurality of chambers to one side of the channel, and inlet
5 passageways extending laterally between the inflation channel and the chambers, the steps of:

 resting the roll of film material on a pair of spaced apart, horizontally extending rollers;

- feeding the film material from the roll to an inflation tube which extends
10 into the inflation channel;

 introducing air into the chambers through the inflation tube to inflate the cushions; and

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forming a longitudinally extending seal across the inlet passageways after the cushions are inflated.

8. In a machine for making air-filled packing cushions from a roll of prefabricated film material having a longitudinally extending inflation channel and a plurality of chambers which communicate with the inflation channel:

5 a pair of spaced apart, horizontally extending rollers on which the roll of film material rests, with the inflation channel being pinched closed by one of the rollers;

means for withdrawing the film material from the roll; and

10 means for injecting air into the inflation channel in a portion of the material which has been withdrawn from the roll, with the air in the inflation channel flowing around the roll only to the point where the channel is pinched closed by the roller.

9. The machine of Claim 8 wherein the film material is withdrawn from the roll about 90 to 180 degrees from the point where the inflation channel is pinched closed by the roller.

10. In a method of making air-filled packing cushions from a roll of prefabricated film material having a longitudinally extending inflation channel and a plurality of chambers which communicate with the inflation channel, the steps of:

5 resting the roll of film material on a pair of spaced apart, horizontally extending rollers, with the inflation channel being pinched closed by one of the rollers;

withdrawing the film material from the roll; and

10 injecting air into the inflation channel in a portion of the material which has been withdrawn from the roll, with the air in the inflation channel flowing around the roll only to the point where the channel is pinched closed by the roller.

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11. The method of Claim 10 wherein the film material is withdrawn from the roll about 90 to 180 degrees from the point where the inflation channel is pinched closed by the roller.

12. In a machine for making air-filled packing cushions from a prefabricated film material having two layers which are sealed together to form a longitudinally extending inflation channel near one edge of the material, a plurality of chambers to one side of the channel, and inlet passageways extending between the inflation channel and the chambers:

an inflation tube which is connected to a source of air and extends into the inflation channel for introducing air into the chambers to inflate the cushions;

a sealing unit for forming a longitudinally extending seal across the inlet passageways after the cushions are inflated; and

dual feed rollers positioned on opposite sides of the inflation tube for engagement with the film material on opposite sides of the inflation channel to feed the film material from the roll past the inflation tube and the sealing unit.

13. A table-top machine for making air-filled packing cushions from a roll of prefabricated film material having a longitudinally extending inflation channel and a plurality of chambers which communicate with the inflation channel through laterally extending inlet passageways:

a cabinet which is adapted to rest on a relatively small horizontal supporting surface;

a pair of spaced apart, horizontally extending rollers on the upper side of the cabinet for receiving the roll of film material in such manner that the roll rests on the rollers;

a feed mechanism positioned toward the front of the cabinet for withdrawing the film material from the roll;

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an inflation tube extending in an upward direction from the feed mechanism and adapted to be received in the inflation channel of the film material that is withdrawn from the roll;

15 a source of air within the cabinet connected to the inflation tube for introducing air into the chambers to inflate the cushions; and

a sealing unit for forming a longitudinally extending seal in the film material between the inflation channel and the cushions to close the inlet passageways after the cushions have been inflated.

14. The table-top machine of Claim 13 wherein the sealing unit includes a cylindrical heating element and a wheel which are urged together, with the axis of the heating element being perpendicular to the axis of the wheel and the heating element being exposed for direct contact with the film material.

15. The table-top machine of Claim 14 wherein the heating element comprises a stainless steel rod.

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